

**UNITED STATES OF AMERICA  
DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
RENTON, WASHINGTON 98055-4056**

In the matter of the petition of

**Dassault Aviation**

for an exemption from § 25.571(e)(1),  
Amendment 25-72, of the Federal Aviation  
Regulations

**Regulatory Docket No. 28551**

**GRANT OF EXEMPTION**

By letters DGT/DTA/NAV529-230 and -231 dated April 5, 1996, G. Garrouste, Certification Office Manager, Dassault Aviation, 9 Ron-Point des Champs Elysees, Marcel Dassault, 75008 Paris, France, petitioned for exemption from the four pound bird strike requirement of § 25.571(e)(1) of the Federal Aviation Regulation (FAR) from " $V_C$  at sea level to 8,000 feet" in favor of " $V_C$  at sea level or  $0.85 V_C$  at 8,000 feet, whichever is greater". The petitions were made separately for the Mystere Falcon 50 and Mystere Falcon 900EX airplanes.

**Sections of the FAR affected:**

Section 25.571(e)(1) requires that the airplane be capable of successfully completing a flight during which likely structural damage occurs as a result of impact with a four pound bird at  $V_C$  at sea level to 8,000 feet.

ANM-96-023-E

**Related Sections of the FAR:**

Section 25.631 requires the empennage to be designed to withstand impact with an 8-pound bird at  $V_C$  at sea level. Section 25.775 requires the windshield to be capable of withstanding impact with a 4-pound bird at  $V_C$  at sea level.

**The petitioner's supportive information is as follows:**

The petitioner based his request for this exemption on the Transport Airplane Directorate, ANM-100, letter dated December 9, 1992, which states that the FAA did not intend to make the bird strike criteria more stringent at altitude. It also states that the Transport Standards Staff agrees to look favorably upon requests for exemptions from the " $V_C$  at 8,000 feet" requirement in § 25.571(e)(1), Amendment 25-72, until the rule can be changed in a later amendment. The airplane must be capable of successfully completing a flight during which likely structural damage occurs as a result of impact with a four pound bird at whichever true airspeed is greater,  $V_C$  at sea level or  $0.85 V_C$  at 8,000 feet. This coincides with the corresponding Joint Airworthiness Authority (JAA) regulatory requirement.

*EXTENT OF THE REQUESTED REGULATORY RELIEF*

Relief is sought to permit use of " $V_C$  at sea level or  $.85 V_C$  at 8,000 feet, whichever is greater," instead of the current § 25.571(e)(1) requirement to test from " $V_C$  at sea level to  $V_C$  at 8,000 feet".

*PUBLIC INTEREST*

"This is an unnecessary burden to us as airplane manufacturer and further is not in the public interest since it can result in higher costs, higher structural weights and less efficient airplanes."

A summary of Dassault Aviation's petition for the Mystere Falcon 900EX was published in the Federal Register on April 30, 1996, 61 FR 19112. No comments were received. Although separate petitions were submitted for the Mystere Falcon 50 and the 900EX airplanes, only the Falcon 900EX summary was published for comment. This was due to an inadvertent oversight by the FAA. Because no comments were received on the Mystere Falcon 900EX and because the public has also been given the opportunity to comment on previous petitions for exemption from this same requirement, the FAA finds no reason to further delay issuance of the exemption in order to invite public comments on the Mystere Falcon 50 petition. One exemption is considered to apply to both model airplanes because they are on the same type certificate.

**The FAA's analysis/summary is as follows:**

The petitioner has requested relief from the requirements of § 25.857(e)(1), which requires that the airplane must be capable of successfully completing a flight during which likely structural damage occurs as a result of impact with a four pound bird at  $V_C$  at sea level to 8,000 feet. The original bird strike provision was adopted by Amendment 25-45 and required the bird impact to be at "likely operating speeds from sea level to 8,000 feet." The term "likely operating speed" was open to interpretation and causing confusion so the FAA proposed a revision that would have required a specific structural design speed. The proposal was published as Notice 84-21, 49 FR 47358, dated December 3, 1984. The FAA proposed a single speed of  $V_C$  at sea level, which was consistent with other bird strike requirements in §§ 25.631 and 25.775. One commentator to the proposal pointed out that an artificially low value of  $V_C$  at sea level could be established for the sole purpose of reducing the bird impact speed. This would lead to unconservative impact airspeeds at lower altitudes where bird impacts are most likely. The FAA agreed and revised the final rule accordingly.

Most airplanes, except those with an artificially low  $V_C$  at sea level, have a near constant value of  $V_C$  KEAS from sea level to 8,000 feet. The same equivalent airspeed at 8,000 feet gives about a 13% increase in true airspeed above that at sea level. In Amendment 25-72, the FAA did not intend to make the rule more stringent at 8,000 feet than at sea level. The intent was to prevent an applicant from selecting an unrealistic value of  $V_C$  at sea level.

In conclusion, the FAA has determined that the Dassault Mystere Falcon 50 and the 900EX, upon compliance with the stated requirements, will meet the intent of the regulations with respect to the bird impact velocities defined in § 25.571(e)(1), Amendment 25-72.

In consideration of the foregoing, I find that a grant of exemption is in the public interest and will not affect the level of safety provided by the regulations. Therefore, pursuant to the authority contained in §§ 313(a) and 601(c) of the Federal Aviation Act of 1958, delegated to me by the Administrator (14 CFR 11.53), Dassault Aviation is hereby

granted an exemption from § 25.571(e)(1) of the Federal Aviation Regulations for the Mystere Falcon 50 and 900EX airplanes.

This grant of exemption will remain in effect unless superseded or rescinded.

Issued in Renton, Washington, on May 31, 1996

/s/

Darrell M. Pederson  
Acting Manager  
Transport Airplane Directorate  
Aircraft Certification Service, ANM-100